Washington State
Department of Transportation

Looking Ahead – June 2005

Bridge Site

West-half roadway widening (north side):
- Set girders on five pontoons
- Place forms in preparation for pouring concrete for road deck

West-half approach span work:
- Set five 155' girders
- Place forms in preparation for pouring concrete for road deck
- Place north and south side falsework

East-half approach span work:
- Pour concrete for end diaphragms
- Pour concrete for east approach span road deck

Anchor Cable Replacement
- Replace four anchor cables
- Clean anchor brackets

Graving Dock Site
- Continue site selection process
- Negotiate contract changes with Kiewit-General

Transition Span Fabrication
- Begin welding together forty diagonal sub-assemblies

Public Information
- Hold presentation for Port Orchard Chamber
- Announce final three-day closure dates
- Complete news media news conference plan
- Complete three-day closure mitigation plan

Just Point and Click

There is lots of information about the Hood Canal Bridge three-day closures on the project web site at **www.hoodcanalbridge.com.** Look for:
- Detour Map
- Driving Directions
- Details on what is happening during the closures
- What WSDOT is doing to keep traffic moving
- Photos of the work at the bridge
- Survival Tips
- Animation of approach span rollovers

Public Input Behind Hood Canal Bridge Closure Updates

The current schedule now under review by the project contractor, Kiewit-General of Poulsbo, would close the bridge twice in August — one weekday closure and one weekend closure. The closure dates remain tentative until late June.

Closed: 8 p.m. Thursday, Aug. 11
Open: 4 a.m. Monday, Aug. 15

Closed: 8 p.m. Sunday, Aug. 21
Open: 4 a.m. Thursday, Aug. 25

Staff has carefully examined the results of citizen questionnaires, an on-line survey and a telephone poll, Washington State Ferries tide and ridership information, Olympic Peninsula events, and the contractor's schedule. It is never easy to close a bridge like the Hood Canal Bridge that is so important to the local communities. WSDOT will continue to work with the contractor to provide bridge users advanced traveler information, to maintain an open and functioning US 101 during the closures, and to reopen the bridge on time.

New Faces, New Places – Hood Canal Bridge Project Team

Dean Moon, *Design Coordinator, Hood Canal Bridge Team*

Dean Moon joined WSDOT Northwest Region I-90 Construction office in 1990. His 15 years of experience has been centered on HOV design projects for NW Region and Pierce County.

Dean's attention to detail and knowledge of Olympic Region construction projects are essential skills for planning Hood Canal Bridge pontoon and anchor construction schedules.

In addition to designing bridges and roads, Dean knows a lot about houses. He takes great pride in the house he built for himself, his wife Amy and his two children, Emma, age 5, and Evan, age 2.

Dean is active and energetic. Hardly a day goes by when he isn't out running, swimming or biking. Dean also spends a good deal of time outdoors playing golf, hiking, hunting and working in the yard.

Project Responsibilities: Coordination of design related activities between Port Orchard office, Olympic region and Headquarters bridge office. Questions? moondr@wsdot.wa.gov or (360) 704-6307

This report highlights updated information regarding the Hood Canal Bridge Project. Additional information may be obtained from WSDOT's Olympic Region Communications Office at (360) 357-2789.

For more information about the Hood Canal Bridge Project, visit the HCB web site: **www.hoodcanalbridge.com.**

For more information, contact:

Lloyd D. Brown, Media Relations
(360) 357-2789 • brownl@wsdot.wa.gov

Eric Soderquist, Project Director
(360) 704-6310 • soderqe@wsdot.wa.gov

Becky Hixson, Community Outreach
(360) 704-6308 • hixsonb@wsdot.wa.gov

Hood Canal Bridge Retrofit and East Half Replacement Project

WEST-HALF WIDENING COMPLETION: 2005
EAST-HALF REPLACEMENT COMPLETION GOAL: 2009

May 2005

Floating Bridges Around the World

Less than a dozen operational pontoon bridges can be found worldwide. The United States has five pontoon bridges, four of them in Washington and the fifth in Hawaii. The other bridges are located throughout the world in Norway, Netherlands, Canada, Germany and Japan.

The bridges are as different as the countries where they can be found. The majority are made of concrete but one bridge is made mostly with fiberglass. A few bridges are still wood, and some are steel. They vary in length from several hundred feet in length to more than 2 miles long. Each bridge is uniquely designed to handle the specific elements and topography of the area.

Interesting highlights about some of the bridges are listed below. For more information and pictures, visit the source at http://en.structurae.de/index.cfm.

Albert D. Rosellini Bridge SR 520, Seattle, WA

*Kelowna Floating Bridge Kelowna, BC, Canada**

*Nordhordland Bridge Bergen, Norway**

UNITED STATES

Bridge	Lacey V. Murrow	Homer Hadley	Albert D. Rosellini	Hood Canal Bridge	Admiral Clarey Bridge
Other Names	Lake Washington Floating Bridge, I-90 Bridge	Third Lake Washington Bridge	Evergreen Point Bridge, SR 520 Floating Bridge	William A. Bugge Bridge	Ford Island Bridge
Location	Seattle, I-90	Seattle, I-90	Seattle, SR 520	Hood Canal, SR 104	Pearl Harbor, Hawaii
Year Opened	1940	1989	1963	1961	1998
Length	1.7 miles (8,981 ft)	1.8 miles (9,559 ft)	2.3 miles (12,404 ft)	1.5 miles (7,866 ft)	1.1 miles (5,610 ft)
Unique Feature	First permanent floating bridge in WA.	Average daily traffic is 61,500.	Longest floating span in the world.	Accommodates 16.5' tides. Only floating bridge on saltwater.	Girders constructed at Concrete Tech in Tacoma.

AROUND THE WORLD

Bridge	Nordhordland Bridge	Queen Emma Bridge	Kelowna Floating Bridge	Bergoysund Floating Bridge	Yumemai Bridge
Other Names	Nordhordlandsbrua	Swinging Old Lady	Okanagan Lake Bridge	Bergoysundbrua	
Location	Bergen, Norway	Willemstad, Netherlands	Kelowna, BC, Canada	Kristiansund, Norway	Osaka, Japan
Year Opened	1994	1939	1958	1992	2001
Length	0.8 mile (4,088 ft)	0.1 mile (548 ft)	0.4 mile (2,100 ft)	0.6 mile (3,061 feet)	0.5 mile (2,880 ft)
Unique Feature	Curves. Longest laterally unsupported span in the world.	Wood deck. Swings from pivot point to open.	Vertical lift bridge.	Steel truss bridge.	Moveable swing-type arch construction.

*Photos courtesy of Robert Cortright, Bridge Ink

Work at the Bridge – May 2005

Anchor Cable Replacement

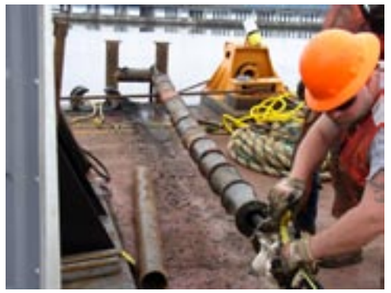
This month four anchor cables were replaced. How is it possible to replace a cable around a concrete anchor that is underwater? Read on for the fascinating details.

1. Release tension from both the north and south cables.
2. Disconnect the old cable from the anchor cable track.

Machinery used to attach new and old cables.

3. Attach the new cable to the old cable. A pad eye is welded to the end of the new cable and then it is attached to the socket of the old cable.
4. The old cable is wound on to a spool on the barge as the barge moves toward the anchor away from the bridge.

The new cable is pulled through the anchor yoke as the old cable is being wound on to a spool on the barge.



Jewelry being clamped into place.

5. Once the center of the new cable has been located (it is pre-marked on the cable), the "jewelry", or big metal beads, are centered and clamped in place over the cable. These beads keep the cable from rubbing on the concrete anchor and being worn down.

New cable being pulled off the spool.

6. Once the jewelry has been verified to be in the proper location via a remote operated vehicle (a submersible device with a camera mounted on it), the barge moves back toward the bridge, letting out cable as it goes.
7. Both ends of the cable are then pulled over the top of the pontoon deck and marked to cut.

The cut is determined from a calculation based on the final location of the anchor cable being centered on the anchor cable track.

8. Once cut, a socket is placed on the anchor cable ends. The cable is then brought into the anchor gallery and attached.

Anchor cable being prepared to be attached to the bridge.

9. Both north and south anchor cables are pulled tight.
10. Gaskets and watertight fixtures are put back in place.
11. Finished!

Bridge Site

West-half roadway widening (north side):

May 20 Completed north side overhang demolition

May 26 Completed crossbeam extensions two pontoons.

West-half approach span work:

May 3 Poured Pier 1 crossbeam

May 19 Poured Pier 2 crossbeam

East-half approach span work:

May 4 Poured span 7 and 8 intermediate diaphragms (concrete supports between the girders)
May 6 Poured Pier 4 crossbeam
May 12 Set girders on span 5
May 13 Set girders on span 6
May 20 Completed Pier 4/5 strut beams
May 24 Poured span 5 and 6 intermediate diaphragms (concrete supports between the girders)
All month Worked on deck formwork
All month Erected roll-off falsework

Transition Span Fabrication

In May, Mississippi Tank Company finished welding 18 steel transition span section joints. The welding of these joints is a three-step process. The six 24-foot sections of pipe are fitted into 40-foot sections and then tacked together with the first weld. The welders check to make sure everything is in the right place, then proceed with the final two welds. The completed steel tubes make up the top and bottom portions of the east transition span.

Once the welding on all bottom and top sections of pipe (18 total) is complete, the Mississippi Tank Company crew will fit and weld the diagonal pipes (40 total).

Shielded metal arc welding taking place on a bottom piece

Crew completing submerged arc welding on a bottom piece

Financial Picture

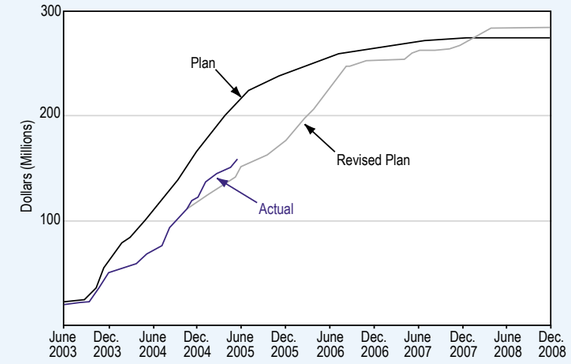
Project Cost Summary

Expenditures as of May 2005 (in millions)

Project Cost Summary	Budgeted	Expended
Preliminary Engineering	$ 12.4	$ 12.2
Right-of-Way	7.7	6.9
Construction	271.9	138.2
Total	**$292.0**	**$157.3**

Planned vs. Actual Expenditures

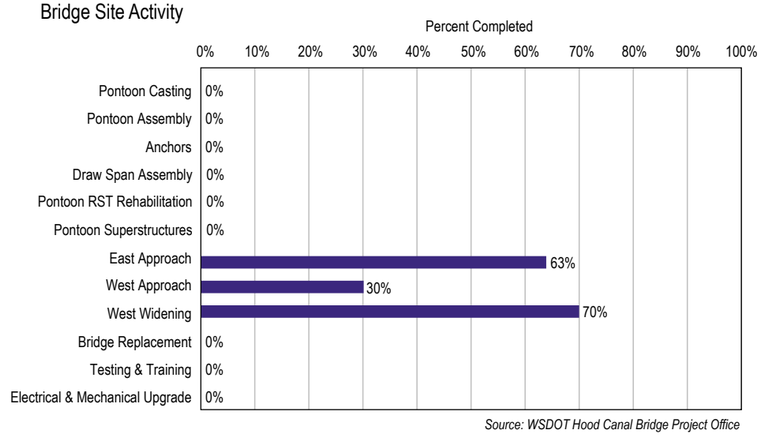
(Total Project Cost)



Source: WSDOT Hood Canal Bridge Project Office

Project Site Completion Status

Bridge Site Activity



Source: WSDOT Hood Canal Bridge Project Office